

WHAT IS CLAIMED IS:

1. An alignment mechanism for a printhead in a printer, the alignment mechanism comprising:

- a support, wherein the printhead is secured to the support;
- a fixed plate biased against the support;
- a plurality of first screws or rods extending substantially in a first direction that attach the substrate to the fixed plate;
- a plurality of second screws or rods extending substantially in a second direction that attach the substrate to the fixed plate; and
- a third screw or a rod extending substantially in a third direction that attaches the fixed plate to the support.

2. The alignment mechanism of claim 1, wherein the first direction is a Z direction, the second direction is a Y direction and the third direction is an X direction and wherein each of the X direction, Y direction and Z direction lie at right angles with respect to one another.

3. The alignment mechanism of claim 1 wherein the printhead is secured to a substantially center location of the support.

4. The alignment mechanism of claim 1, wherein rotation of the plurality of first screws, while the plurality of second screws and the third screw remain fixed, results in the support moving substantially in the first direction with respect to the fixed plate.

5. The alignment mechanism of claim 1, wherein rotation of the plurality of second screws, while the plurality of first screws and the third screw remain fixed, results in the support moving substantially in the second direction with respect to the fixed plate.

6. The alignment mechanism of claim 1, wherein rotation of the third screw, while the plurality of the first screws and the plurality of second screws remain fixed, results in the support moving substantially in the third direction with respect to the fixed plate.

7. The alignment mechanism of claim 1, wherein the plurality of first screws are each located at right angles with respect to each other.

8. The alignment mechanism of claim 1, wherein the plurality of first screws are located at right angles with respect to the plurality of second screws and the

third screw and wherein the plurality of second screws are located at right angles with respect to the third screw.

9. The alignment mechanism of claim 1, wherein a first of the plurality of first screws is rotated while a remaining of the plurality of the first screws remain fixed results in the support rotating about a first axis or second axis with respect to the fixed plate.

10. The alignment mechanism of claim 9, wherein the first axis is an X axis and the second axis is a Y axis.

11. The alignment mechanism of claim 1, wherein rotation of any one of the plurality of second screws, while the remaining of the plurality of second screws remain fixed, the plurality of first screws remain fixed, and the third screw remains fixed, results in the support rotating about a third axis with respect to the fixed plate.

12. The alignment mechanism of claim 11, wherein the third axis is a Z axis.

13. The alignment mechanism of claim 1 further comprising:
a plurality of openings in the support;
a plurality of openings in the fixed plate;
a plurality of protrusions on the support, wherein at least one of the plurality of protrusions on the support extends into at least one of the openings in the fixed plate; and
a plurality of projections on the fixed plate, wherein at least one of the plurality of projections on the fixed plate extends into at least one of the openings in the support.

14. The alignment mechanism of claim 13 further comprising:
a top surface of the fixed plate, wherein the plurality of second screws extend from the top surface of the fixed plate, through the fixed plate and into the at least one of the plurality of projections on the fixed plate in the at least one of the openings in the support.

15. The alignment mechanism of claim 13 further comprising:
a side of the fixed plate, wherein the third screw extends through the side of the fixed plate, into one of the plurality of openings in the fixed plate and into one of the plurality of protrusions of the support.

16. The alignment mechanism of claim 1 further comprising:

a plurality of springs; and
a tip associated with each of the a plurality of first screws, the plurality of second screws, and the third screw,
wherein each tip of the plurality of first screws, the plurality of second screws, and the third screw is biased by a respective one of the plurality of springs against the fixed plate or the support.

17. The alignment mechanism of claim 1 further comprising:
a second plate biased against the fixed plate;
a second set of a plurality of first screws extending substantially in the first direction that attach the second plate to the fixed plate;
a second set of a plurality of second screws extending substantially in the second direction that attach the second plate to the fixed plate; and
a second third screw extending substantially in the third direction that attaches the second plate to the fixed plate.

18. A method for providing the alignment mechanism of claim 1, the method comprising the steps of:
associating a printhead with the alignment mechanism; and
adjusting screws to adjust the printhead in six degrees of freedom including translation of the printhead in the first direction, the second direction and the third direction and rotation of the printhead about a first axis, a second axis and a third axis.

19. The alignment mechanism of claim 1, wherein each of the plurality of first screws, the plurality of second screws and the third screw are adjusted manually or by motor.

20. An image forming device including the alignment mechanism of claim 1.